

THAT WHICH IS CLAIMED:

1. An easy-opening, retortable container comprising:
a base portion having a bottom and side and defining an interior space and an opening thereto;
5 a plastic membrane of sufficient size to cover said opening, said membrane defining first and second sides and having coplanar inner and outer portions, said outer portion being joined to said base portion, said inner and outer portions being defined by an annular groove disposed in one of the first and second sides of said membrane; and
10 a grip portion integral to said plastic membrane, said grip portion being disposed on said second side of said plastic membrane and connected to said inner portion; and
wherein said annular groove defines an annular fail portion between said inner and outer portions of said plastic membrane such that said inner portion is structured
15 to be removed from said outer portion by urging said grip portion away from said outer portion, thereby tearing said annular fail portion and opening the container.
2. An easy-opening, retortable container according to Claim 1 wherein said base portion is formed of plastic.
3. An easy-opening, retortable container according to Claim 1 wherein
20 said grip portion is a circumferentially continuous annular pull ring extending generally in a plane substantially parallel to said plastic membrane.
4. An easy-opening, retortable container according to Claim 3 wherein
said grip portion is connected to said inner portion of said plastic membrane by a primary connection portion and at least one secondary connection portion, said at
25 least one secondary connection portion being circumferentially spaced from said primary connection portion and weaker than said primary connection portion such that said at least one secondary connection portion is configured to break when said grip portion is urged from said inner portion such that said grip portion is hinged by the primary connection portion.

5. An easy-opening, retortable container according to Claim 3 wherein said grip portion defines a diameter which substantially corresponds to the diameter of said annular groove.

6. An easy-opening, retortable container according to Claim 1 wherein
5 said fail portion has a strength of about 14 pounds or less.

7. An easy-opening, retortable container according to Claim 1 wherein said membrane and said base portion are each formed of a high barrier plastic material to prevent transmission of moisture and oxygen therethrough.

8. An easy-opening, retortable container according to Claim 1 wherein
10 said membrane is formed of polyolefin.

9. An easy-opening, retortable container according to Claim 1 wherein said membrane includes oxygen scavengers disposed in a polyolefin.

10. An easy-opening, retortable container according to Claim 1 wherein said outer membrane defines a circumferential ridge extending from said first side of
15 said membrane, said ridge structured to engage said base portion of the container.

11. An easy-opening, retortable container according to Claim 1 wherein said outer membrane portion is friction welded to said base portion.

12. An easy-opening closure for hermetic sealing of an opening of a base portion of a retortable container, the closure comprising:

20 a plastic membrane of sufficient size to cover the opening, said membrane defining first and second sides and having coplanar inner and outer portions, said outer portion adapted to be joined to the base portion, said inner and outer portions being defined by an annular groove disposed on the first side of said membrane; and

a grip portion integral to said plastic membrane, said grip portion being
25 disposed on said second side of said plastic membrane and connected to said inner portion; and

wherein said annular groove defines an annular fail portion between said inner and outer portions of said plastic membrane such that said inner portion is structured

to be removed from said outer portion by urging said grip portion away from said outer portion, thereby tearing said annular fail portion and opening the container.

13. An easy-opening closure according to Claim 12 wherein said grip
portion is a pull ring extending generally circumferentially in a plane substantially
5 parallel to said plastic membrane.

14. An easy-opening closure according to Claim 12 wherein said grip
portion is connected to said inner portion of said plastic membrane by a primary
connection portion and at least one secondary connection portion, said at least one
secondary connection portion being circumferentially spaced from said primary
10 connection portion and weaker than said primary connection portion such that said at
least one secondary connection portion is configured to break when said grip portion
is urged from said inner portion such that said grip portion is hinged by the primary
connection portion.

15. An easy-opening closure according to Claim 12 wherein said fail
15 portion has a strength of about 14 pounds or less.

16. An easy-opening closure according to Claim 12 wherein said
membrane is formed of a high barrier material to prevent transmission of moisture
and oxygen therethrough.

17. An easy-opening closure according to Claim 12 wherein said
20 membrane is formed of polyolefin.

18. An easy-opening closure according to Claim 12 wherein said
membrane includes oxygen scavengers disposed in a polyolefin.

19. An easy-opening closure according to Claim 12 wherein said outer
membrane defines a circumferential ridge extending from said first side of said
25 membrane, said ridge structured to engage the base portion of the container.

20. An easy-opening closure according to Claim 12 wherein said outer
membrane portion is adapted to be friction welded to the base portion.

21. A method of hermetically sealing an open end of a retortable, easy-opening container, the method comprising:

providing a base portion of the container, the base portion defining an opening;

5 forming a plastic closure having a membrane and an integral grip portion, the membrane defining first and second sides and having coplanar inner and outer membrane portions, the inner and outer membrane portions being defined by an annular groove disposed on the first side of the membrane, said grip featured being disposed on the second side of the plastic membrane and connected to the inner
10 membrane portion;

disposing the plastic closure against the base portion such the outer membrane portion contacts the base portion and the membrane covers the opening; and

joining the outer portion of the membrane and the base portion, such that the annular groove defines an annular fail portion between the inner and outer portions of
15 the membrane and the inner portion is structured to be removed from the outer portion by urging the grip portion away from the outer portion, thereby tearing the annular fail portion and opening the container.

22. A method according to Claim 21 wherein said providing step comprises forming the base portion of plastic.

20 23. A method according to Claim 21 wherein said forming step comprises injection molding the plastic closure as an integral member defining the groove.

24. A method according to Claim 21 wherein said forming step comprises forming the grip portion connected to the inner portion of the membrane by a primary connection portion and at least one secondary connection portion, each secondary
25 connection portion being circumferentially spaced from the primary connection portion and weaker than the primary connection portion, and comprising the further step of opening the container by pulling upward on the grip portion so as to initially break each secondary connection portion, then hinge the grip portion at the primary connection portion, and then break the inner portion from the outer portion at the
30 annular groove.

25. A method according to Claim 21 wherein said forming step comprises disposing oxygen scavengers in a plastic.

26. A method according to Claim 21 where said joining step comprises friction welding the outer membrane portion to the base portion.

5 27. A method according to Claim 21 further comprising retorting the container after said joining step.